Memorandum

DATE: AUGUST 4, 2010

TO: Tank Owners, UST Installers, UST inspectors, other interested parties

FROM: Lamar Bradley

RE: Interim Guidance on Interstitial Monitoring Record Keeping

The Division has been asked to address interstitial monitoring record keeping and what tank owners must provide to document that they are conducting monthly monitoring properly.

The Division is revising Compliance Guidance Document (CGD) -108 Interstitial Monitoring, which describes what tank owners must do to comply with interstitial monitoring requirements. The revised CGD will be a significant improvement over the current CGD when it is published. The attached forms will be included in the revised CGD, but you should begin using these forms now.

Applicable rules and policies:

- All tanks, pressurized piping, and piping not meeting safe suction piping requirements, installed after July 24, 2007 must use Interstitial Monitoring as a method of release detection.
  Rule 1200-1-15-.02(2)(a)2 and (b)2.

- It is Division policy that if electronic sensors are used for interstitial monitoring, sensors must be installed in all sump and any location where petroleum could accumulate.
  Division policy memo dated July 15, 2008

- Interstitial monitoring methods must provide continuous monitoring, and must be installed, operated and maintained in accordance with guidance published by the Division.
  Rule 1200-1-15-.04(3)(g)

- Tank owners are required to maintain records of release detection.
  Rule 1200-1-15-.03(2)(b)4 and Rule 1200-1-15-.04(5)

The following interim guidance applies to Interstitial Monitoring release detection record keeping:

Interstitial monitoring monthly records must consist of:

1. A record documenting the operational status of all sensors, and

2. A record documenting the monthly alarm history for each sensor.

The attached form CN-1340 Monthly Electronic Interstitial Monitoring Report must be used indicating that the sensors are functioning properly, or if not, what was done. The tank owner must also use this form to document

all sensor alarms and what action was taken in response to the alarm. A monthly sensor status report from an ATG indicating sensor status and alarm history for the month should be attached to this form.

Electronic sensors must be tested annually for proper operation. The attached form CN-1339 Annual Electronic Interstitial Monitoring Test Report must be used to document that the interstitial monitoring system was determined to be operating properly.

Memorandum

DATE: **JULY 15, 2008**

TO: All Tank Owners, Tanks Installers, and Service Providers

FROM: Stan Boyd

RE: Sump Sensors Used in Secondary Containment Interstitial Monitoring

In response to questions received relative to interstitial monitoring, the Division is issuing the following guidance:

The Division will not accept visual observation as a means of interstitial monitoring for pressurized piping.

Monthly visual observation is not a method of tank or piping leak detection in rule 1200-1-15-.04(4). Monthly visual observation does not provide a means of catastrophic line leak detection in the event of a piping leak. Electronic sensors which indicate the presence of liquid or product can be used in sumps to provide continuous monitoring. Sensors must be placed at the lowest point in the sump and must be tested for proper operation at least once per year.

When electronic sensors are used to provide interstitial monitoring for secondary containment, the sensors must be installed in any location where leaking product can accumulate.

The rules do not require the integrity of the secondary containment system be monitored; therefore secondary containment may develop a breach at some point which could allow a leak to leave the system undetected by a single sensor. Electronic sensors must be installed in every sump where sensors are used to provide interstitial monitoring in secondarily contained piping systems.

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF UNDERGROUND STORAGE TANKS
4th Floor, L & C Tower, 401 Church Street
Nashville, TN 37243-1541

ANNUAL ELECTRONIC INTERSTITIAL MONITORING TEST REPORT

This report is used to document functional testing of electronic interstitial monitoring devices.

- In the absence of an approved 3rd party test procedure or manufacturer's recommended practice, the procedure outlined below may be used to verify the interstitial monitoring devices are working properly.
- Interstitial monitoring is required on all UST systems installed after July 24, 2007.
- Report any unusual operating conditions or suspected releases discovered during this test to the division within 72 hours of discovery. Failure to do so could affect fund coverage in the event of a release.
- Attach documentation of all completed repairs, service invoices, or leak detection equipment replacement to this report, and maintain these records for a period of 12 months.

I. UST FACILITY		II. PERSON CONDUCTING TEST	
UST Facility ID #:		Name:	
Facility Name:		Company:	
Address:		City:	State
City:	County:	ZIP:	Phone:
Tester Signature:		Test Date:	

III. TEST AND MONITORING DEVICE INFORMATION (Attach additional pages as necessary)

Sensor ID								
Manufacturer								
Model #								
Location:								

Type of Sensor(s) (Check all that apply)

☐ Float Switch- Type: ☐ discriminating ☐ non-discriminating

☐ Optical Sensor ☐ Electrical Conductivity Sensor ☐ Pressure Monitoring Device

☐ Vacuum Monitoring Device ☐ Other (specify):

System Setup (Check all that apply)

If a sensor alarms, the interstitial monitoring system responds with the following actions:

☐ Visual Alarm ☐ Audible Alarm ☐ Tank Monitor Leak Alarm

☐ Submersible Pump Shutdown ☐ Off Site Telemetry Alarm ☐ Other (specify)

required at unmanned facilities

IV. ELECTRONIC INTERSTITIAL MONITORING TEST PROCEDURE

Check Completed	Task
☐	Monitoring console is operational, no current active alarms. Activate "test" or "diagnostic" mode if applicable.
☐	Sensors are present and installed at proper level to detect a release in all appropriate locations.
☐	Sensors alarm when activated (immersed in appropriate liquid or other applicable method).
☐	Simulated alarm condition causes the appropriate response indicated in the section above.
☐	Document the simulated alarms in the facility's alarm history report records as "annual functional test".
☐	Inspect all secondary containment sumps: no evidence of leaks, appear to be liquid tight.
☐	Inspect all sump inlets and boots connected to the piping where liquid enters the sump, free of obstructions.
☐	Inspect tank sump covers to ensure gaskets and seals are installed properly to prevent surface water intrusion.

Comments (list all problems found, repairs, work performed or other information):

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MONTHLY ELECTRONIC INTERSTITIAL MONITORING REPORT

This report is used to document interstitial monitoring of underground storage tanks (UST) systems equipped with secondary containment. Interstitial monitoring is required on all UST systems installed after July 24, 2007.

- Document the status of any alarms reported during the monitoring period.
- Maintain these records for a minimum of 12 months and submit them for review upon request by the division.
- Attach copies of all monthly sensor status and alarm history reports for the monitoring period.

I. UST FACILITY		II. PERSON CONDUCTING MONITORING	
UST Facility ID #:		Name:	
Facility Name:		Company:	
Address:		City:	State:
City:	County:	Phone #:	

III. INTERSTITIAL MONITORING DEVICE INFORMATION

UST System Components Monitored (Check all that apply)

☐ Double-wall Tank ☐ Double-wall Pipe ☐ STP Sumps ☐ Dispenser Sumps ☐ Transition Sumps

Interstitial Space:

☐ Atmospheric (dry) ☐ Hydrostatically Monitored (Brine Filled)* ☐ Vacuum Monitored* ☐ Pressure Monitored*

*Name of Third Party Approved Monitoring Method(s): _____

IV. MONTHLY ELECTRONIC INTERSTITIAL MONITORING RESULTS
(Attach additional pages as needed)

MONTH:	YEAR:

Sensor ID								
Tank, Sump, or Dispenser								
Result								
Alarm Status								

V. INTERSTITIAL MONITORING ALARM LOG

- Document all sensor alarms that occurred during the previous 30 days using this section of the report.
- Document that all alarms or suspected releases have been investigated and, if necessary, attach the appropriate documentation to this report.
- If your monitoring device is capable of producing an "alarm history" report, attach a copy of the report to this form.

Date of Alarm	Cause of Alarm	Describe Action Taken:

I have completed a review of the monthly interstitial monitoring release detection records for this facility. The electronic console is functioning normally (no warning lights or error messages), all sensors are operational. All alarms and suspected releases discovered during this monitoring period have been documented and properly investigated.

Signature:	Date:

CN- 1340 RDA 2304